

1. A method of molding flexible circuit elements, comprising:

providing a mold section having a molding compound cull block, a first mold runner cavity connected to said molding compound cull block, a stiffener cavity connected to said first mold runner cavity, a number of circuit cavities, a number of second mold runner cavities connected to said first mold runner cavity wherein each of said second mold runner cavities is connected to one of said circuit cavities;

providing a flexible tape;

providing a number of circuit die attached to said flexible tape;

providing a molding compound;

placing said mold section on said flexible tape covering said circuit die;

placing said molding compound in said molding compound cull block of said mold section;

flowing said molding compound through said first mold runner cavity and said second mold runner cavities into said circuit cavities, covering said circuit die, and said stiffener cavity;

curing said molding compound thereby forming flexible circuit elements and stiffeners on said flexible tape; and

removing said mold section.

40
50
55
60
65
70
75
80
85
90
95

2. The method of claim 1 wherein said molding compound is a heat cured material.

3. The method of claim 1 wherein said molding compound is a compacted powder in a semicured state.

4. The method of claim 1 wherein said flexible tape is polyimide tape.

5. The method of claim 1 wherein said flexible tape is formed of a flexible material.

6. The method of claim 1 wherein said curing said molding compound uses time and temperature.

7. The method of claim 1 wherein said flexible tape has a first surface, a second surface, via holes between said first surface and said second surface, and further comprises electrical traces formed on said first surface or said second surface.

8. The method of claim 1, wherein said flexible tape has a first surface, a second surface, and via holes between said first surface and said secnd surface and further comprises electrical traces formed on said first surface and said second surface.

9. The method of claim 1 wherein no additional means of stiffening said flexible tape is used.

10. The method of claim 1 further comprising separating said flexible circuit elements, including said circuit die, into individual said circuit elements and removing said first mold runners, said second mold runners, and said stiffeners from each of said flexible circuit elements.

11. A molded flexible circuit assembly, comprising:

a flexible tape;
a number of circuit die attached to said flexible tape;
a number of encapsulation units formed of molded
encapsulation material, wherein each of said circuit die is
covered by one of said encapsulation units; and
a number of molded stiffeners formed of said molded
encapsulation material.

12. The molded flexible circuit assembly of claim 11 wherein said molded encapsulation material is epoxy.

13. The molded flexible circuit assembly of claim 11 wherein said flexible tape is polyimide tape.

14. The molded flexible circuit assembly of claim 11 wherein said flexible tape has a first surface, a second surface, via holes between said first surface and said second surface, and electrical traces formed on said first surface or said second surface.

15. The molded flexible circuit assembly of claim 11 wherein said flexible tape has a first surface, a second surface, via holes between said first surface and said second surface, and electrical traces formed on said first surface and said second surface.

16. The molded flexible circuit assembly of claim 11 wherein no additional means of stiffening said flexible tape is used.